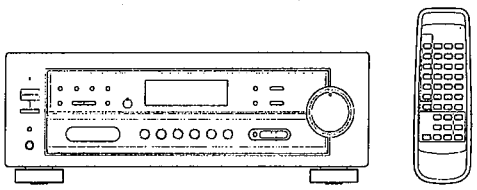
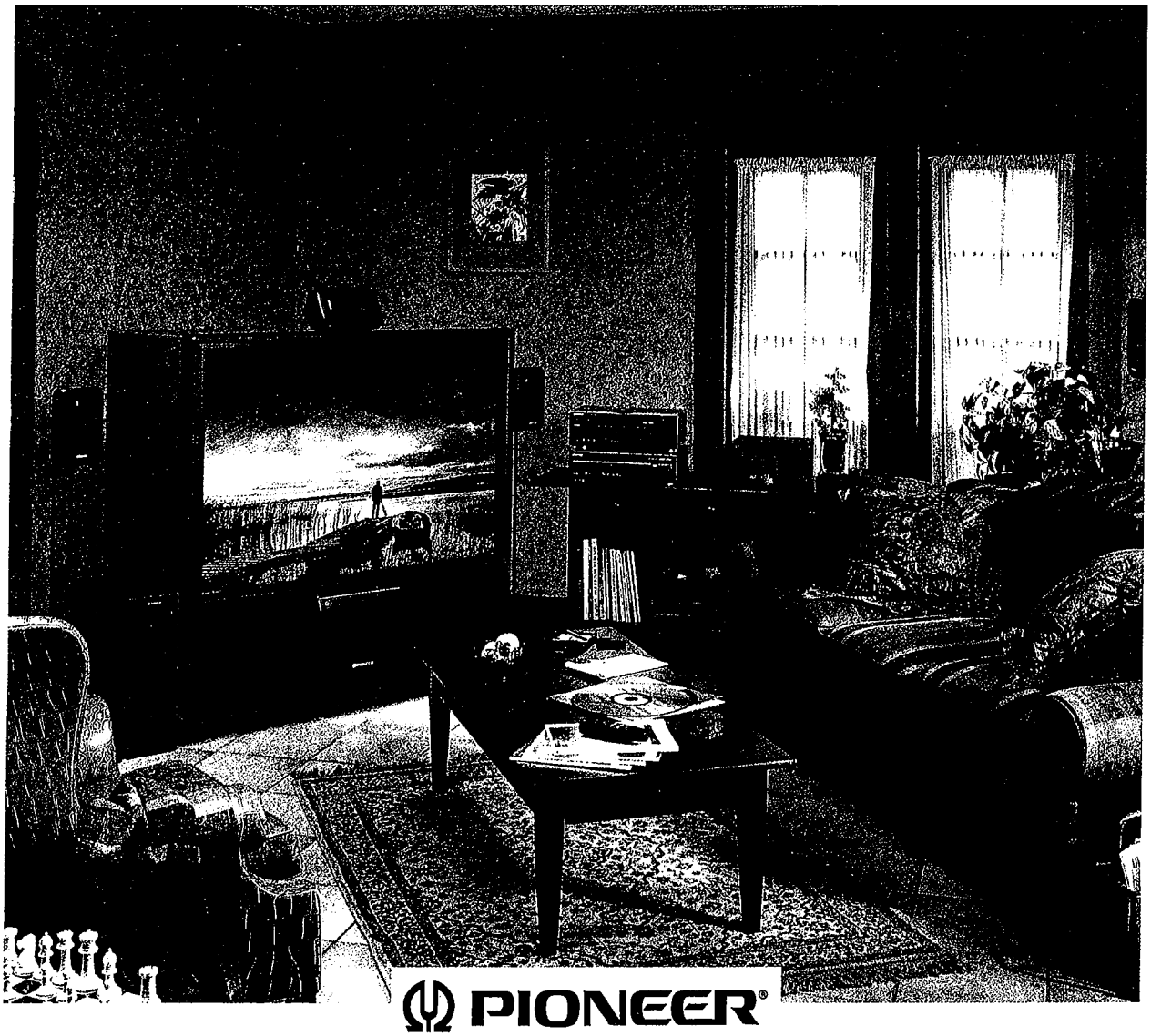
AUDIO/VIDEO MULTI-CHANNEL RECEIVER

Operating Instructions

VSX-407RDS





PIONEER®

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This product complies with the Low Voltage Directive (73/23/EEC), EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC).

VENTILATION

- When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 60 cm at top, 10 cm at rear, and 30 cm at each side). If not enough space is provided between the unit and walls or other equipment, heat will build up inside, interfering with performance or causing malfunctions.
- Do not place on a thick carpet, bed, sofa or fabric having a thick pile. Do not cover with fabric or other covering.
  Anything that blocks ventilation will cause internal temperature to rise, which may lead to breakdown or fire hazard.

IMPORTANT

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

FEATURES

□ DOLBY* PRO LOGIC COMPATIBLE

Best suited for playing back movies and music by reproducing surround effects.

□ 50 W 4 ch EQUAL POWER AMPLIFIER

4 ch equal power amplifier which plays back the high quality effect of Dolby Pro Logic.

□ FIVE DSP MODES

Reproduces five surround effects-HALL, JAZZ, DANCE, THEATER 1 and THEATER 2.

□ VIRTUAL DOLBY* SURROUND

The Virtual Dolby Surround function creates a three-dimensional sound field using only the front right and left speakers.

□ RDS (Radio Data System)

FM broadcast stations display transmitting information.

Manufactured under license from Dolby Laboratories Licensing Corporatoin. "Dolby", the double-D symbol and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

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READING THIS MANUAL

■ Meaning of Marks

Provides detailed precautions and advice on operations, etc.

Indicates that displays are blinking.

Indicates that displays are lit.

■ Meaning of Illustrations

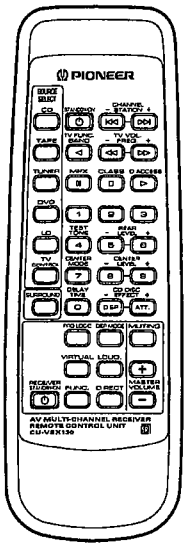
The following describes illustrations on pressing buttons.

Means to press the PRO LOGIC button.

Means to press the MASTER VOLUME + or MASTER VOLUME – button (of the remote control unit).

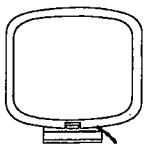
1. BEFORE USE

CHECKING ACCESSORIES

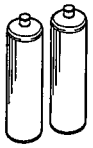


Remote control unit

FM antenna



AM loop antenna



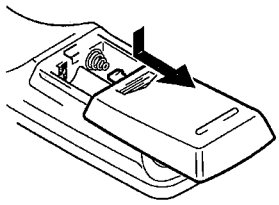
Dry cell battery
(size "AA" IEC R6P) × 2

Operating instructions

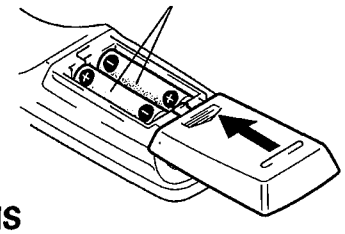
REMOTE CONTROL UNIT

Loading remote control batteries

1.



2. Dry cell battery
(size "AA" IEC R6P) × 2

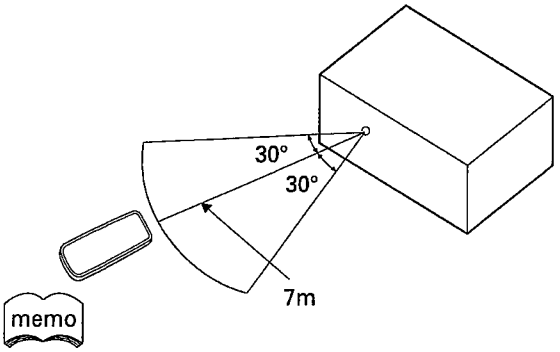


CAUTIONS

Incorrect use of batteries may result in such hazards as leakage and bursting. Observe the following precautions.

- Never use new and old batteries together.
- Insert the plus and minus sides of the batteries properly according to the marks in the battery case.
- Batteries with the same shape may have different voltages. Do not use different batteries together.

Operating range of remote control unit

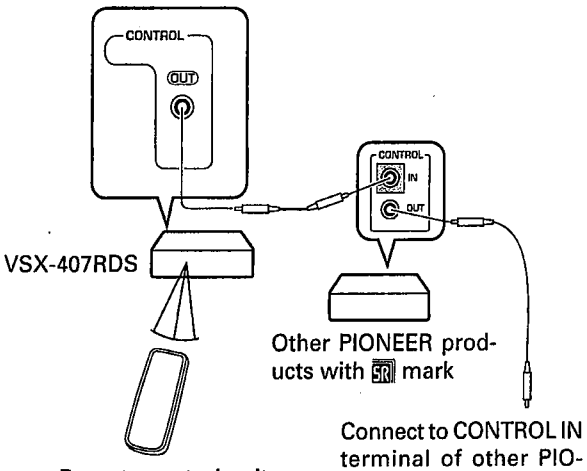


memo

- The remote control unit may not work if there are obstacles between the remote control unit and this unit, and if the remote control unit is not directed towards the remote sensor of the main unit at the correct angle.
- The remote control unit may not work properly if strong light such as direct sunlight and fluorescent light is shining onto the main unit's remote sensor.
- The remote control unit may not work properly when this unit is used near devices emitting infrared rays, or when remote control units of other devices which use infrared rays are used.
  On the other hand, the use of this remote control unit may cause other devices to work improperly.
- When the operating range of this remote control unit becomes too short, replace the batteries.

Operating the remote control unit

By connecting the control cord (optional), other PIONEER products can be operated using this remote control unit via this unit. Direct the remote control unit towards the remote sensor of this unit.
The remote control signals are received by the remote sensor of this unit, and sent to the other devices via the CONTROL OUT terminal.

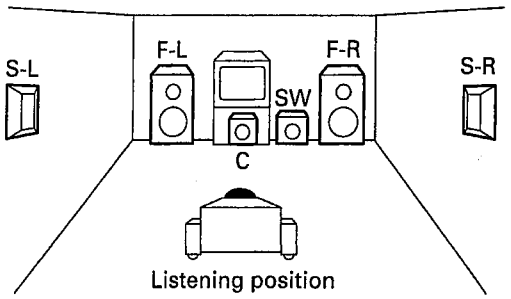


INSTALLATION

Installing speakers

To achieve the best surround effects, install speakers as shown in the following figure.

Installation Example



In the above figure, F indicates front speakers, S indicates surround speakers, C indicates center speaker, SW indicates sub woofer, R indicates right, and L indicates left.

memo

- If installing the surround speakers far away from the front and center speakers, surround effects cannot be fully achieved.
- Installing speakers near the TV may cause interference such as the TV color to change. In such cases, use magnetically shielded speakers or install the speakers away from the TV.
- Install the left and right speakers at equal distance from the TV.
- Install the center speaker at the top, bottom, or behind the TV so that TV sound and images match.
- It is recommended to install the surround speakers slightly above ear level.

Installing the cassette deck

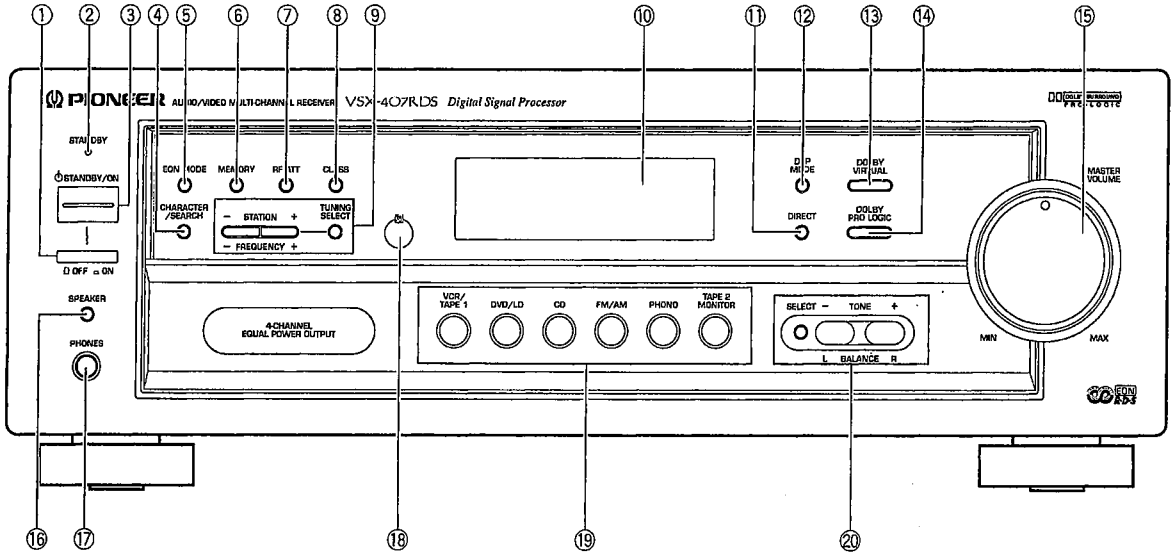
The cassette deck may produce noise when played back depending on the place of installation.
The noise is due to the effects of leakage flux caused by the transformer of the receiver.
In such cases, change the place of installation or install it away from the receiver.

2. NAMES AND FUNCTIONS OF PARTS

NAMES OF PARTS

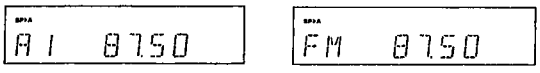
Front Panel

The size of characters in the figure may different from that on the actual product.



① **Power switch**
② **STANDBY indicator**
③ **⏻ STANDBY/ON button**
④ **CHARACTER/SEARCH button (P.27)**
⑤ **EON MODE button (P.30)**
⑥ **MEMORY button (P.22)**
⑦ **RF ATT button**
Set this button to on when receiving strong FM signals (nearby stations) to reduce sound distortion. Normally, this button should be set off. This button does not affect AM reception.
⑧ **CLASS button (P.22)**
⑨ **TUNING SELECT, STATION (–, +) and FREQUENCY (–, +) buttons**
TUNING SELECT:
Use to select the STATION mode and FREQUENCY mode when operating the tuner.

STATION mode: FREQUENCY mode:



STATION (–, +):
Use to select the station number when operating the tuner.
FREQUENCY (–, +):
Use to select the frequency when operating the tuner.
⑩ **Display**
⑪ **DIRECT button**
Use to play back sound without going through the tone and balance control circuits. DOLBY PRO LOGIC, DSP MODE, DOLBY VIRTUAL and LOUDNESS also turn off.
⑫ **DSP MODE button (P.15)**
⑬ **DOLBY VIRTUAL button (P.19)**
⑭ **DOLBY PRO LOGIC button (P.14)**
⑮ **MASTER VOLUME**
⑯ **SPEAKER button**
Switches as follows with each press.

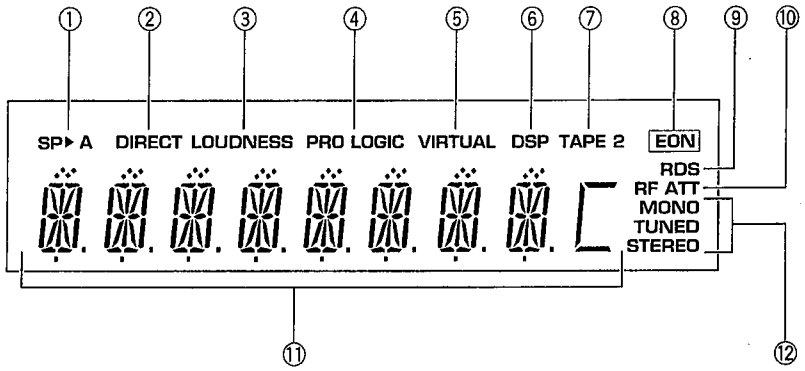
FRONT SPEAKER ON → FRONT SPEAKER OFF →

⑰ **PHONES jack (Headphone terminal)**
⑱ **Remote sensor**
⑲ **Function buttons (P.21)**
⑳ **SELECT, TONE (–, +) and BALANCE (L, R) buttons**
SELECT:
Use to select the TONE (TREBLE, BASS) and BALANCE control.

TREBLE control → BASS control → BALANCE control →

TONE (–, +):
Use to adjust tone.
BALANCE (L, R):
Use to adjust volume balance.

Display



① **SPEAKER A indicator**
Lights when FRONT SPEAKER is ON.

② **DIRECT indicator**
Lights when DIRECT is ON.

③ **LOUDNESS indicator**
Lights when LOUDNESS is ON.

④ **PRO LOGIC indicator**
Lights when Dolby Pro Logic is selected.

⑤ **VIRTUAL indicator**
Lights when DOLBY VIRTUAL is selected.

⑥ **DSP indicator**
Lights when HALL, JAZZ, DANCE, THEATER 1 and THEATER 2 has been selected with the DSP MODE button.

⑦ **TAPE 2 indicator**
Lights when TAPE 2 MONITOR is ON.

⑧ **EON MODE indicator**
Lights when EON MODE is ON.

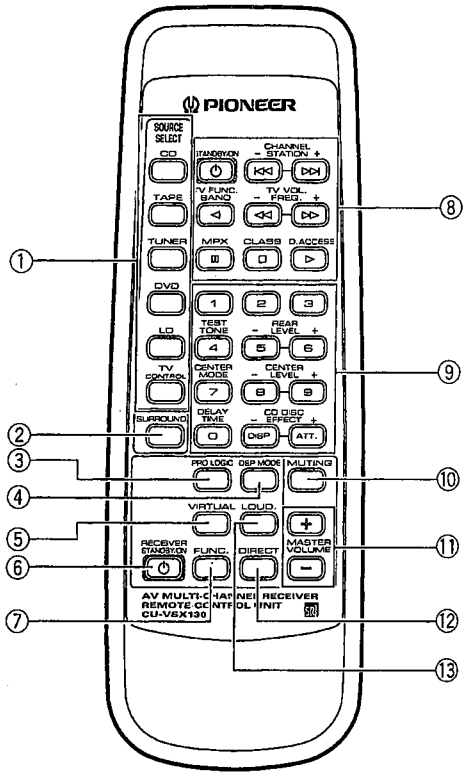
⑨ **RDS indicator**
Lights when RDS broadcast is received.

⑩ **RF ATT indicator**

⑪ **CHARACTER display**

⑫ **TUNER indicator**
MONO:
Lights when the monaural mode is set using the MPX MODE button.
TUNED:
Lights when broadcasts are being received.
STEREO:
Lights when stereo broadcasts are received during auto stereo mode.

REMOTE CONTROL UNIT



① SOURCE SELECT function buttons (P.20)

When operating other devices, press any one of these buttons to specify the device to be operated.

memo

This button cannot be used to switch the functions of this unit.

② SURROUND button (P.16)

Press when performing surround operations.

③ PRO LOGIC button (P.14)

Use to change the mode of DOLBY PRO LOGIC.

④ DSP MODE button (P.15)

Use to switch the DSP MODE.

⑤ VIRTUAL button (P.19)

Use to turn ON/OFF DOLBY VIRTUAL.

⑥ RECEIVER STANDBY/ON button (P.20)

⑦ FUNC. (FUNCTION) button (P.20)

Use to switch the function setting of this unit.

TUNER → CD → DVD/LD → PHONO ← VCR/TAPE 1 ←

⑧ [TUNER operations]

STATION –/+, BAND, FREQ. –/+, MPX, CLASS, D.ACCESS buttons

MPX: Use to switch the auto stereo/monaural mode for receiving FM broadcasts.
When the received broadcast signal is weak, press this button to set the monaural mode.

[TV operations]

STANDBY/ON, CHANNEL –/+, TV FUNC., TV VOL. –/+ buttons

[CD, TAPE, DVD, LD operations]

STANDBY/ON, ⏮, ⏭ (Chapter/Track search), ◀ (Play), ◀◀ (Rewind), ▶▶ (Fast forward), ❚❚ (Pause), ■ (Stop), ▶ (Play) buttons

⑨ Number/Surround setting buttons [When set to SURROUND (OPERATIONS)]

TEST TONE: When DOLBY PRO LOGIC is ON, volume balance adjustment signals are output in order from the speakers and can be adjusted.
REAR LEVEL –/+: Adjusts the rear level.
CENTER MODE: Switches the center mode.
CENTER LEVEL –/+: Adjusts the center level.
DELAY TIME: Use to set the delay time.
EFFECT –/+: Adjusts DSP effects and virtual surround level.

[TUNER operations]

Number buttons: Use for setting the frequency value when the station call is selected or during direct access.
DISP: Change the display mode.
ATT.: Use to turn ON/OFF RF ATT.

⑩ MUTING button

Press to mute the volume.

⑪ MASTER VOLUME –/+ button

Use to adjust the volume.

⑫ DIRECT button

Use to playback sound without going through the tone and balance control circuits. DOLBY PRO LOGIC, DOLBY VIRTUAL, DSP MODE and LOUDNESS also turn off.

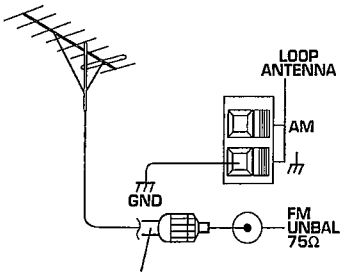
⑬ LOUD.(LOUDNESS) button

When LOUDNESS is turned ON at a small volume, the low frequency and high frequency levels increase, enabling the sound to be easier to hear.

CONNECTING DEVICES

When connecting or changing equipment, be sure to turn OFF the POWER switch, and disconnect the power cord from the wall outlet.

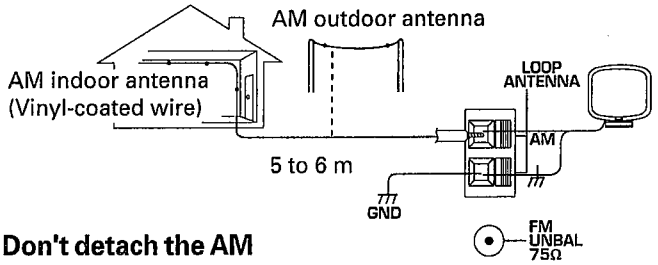
■ For better reception of signals, use the FM external antenna.



75 Ω coaxial cable

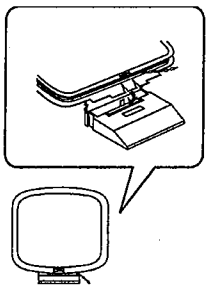
■ When AM broadcast reception is poor

Connect a 5 to 6 meter long vinyl-coated wire to the AM antenna. If possible draw horizontally outdoors to achieve better reception.

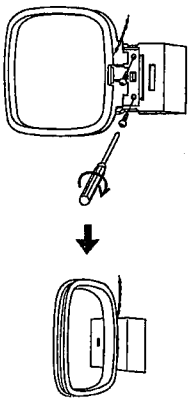


Don't detach the AM loop antenna.

■Assembling the AM loop antenna



■When attached on a wall, etc.



Face towards the direction with the best reception.

FM antenna

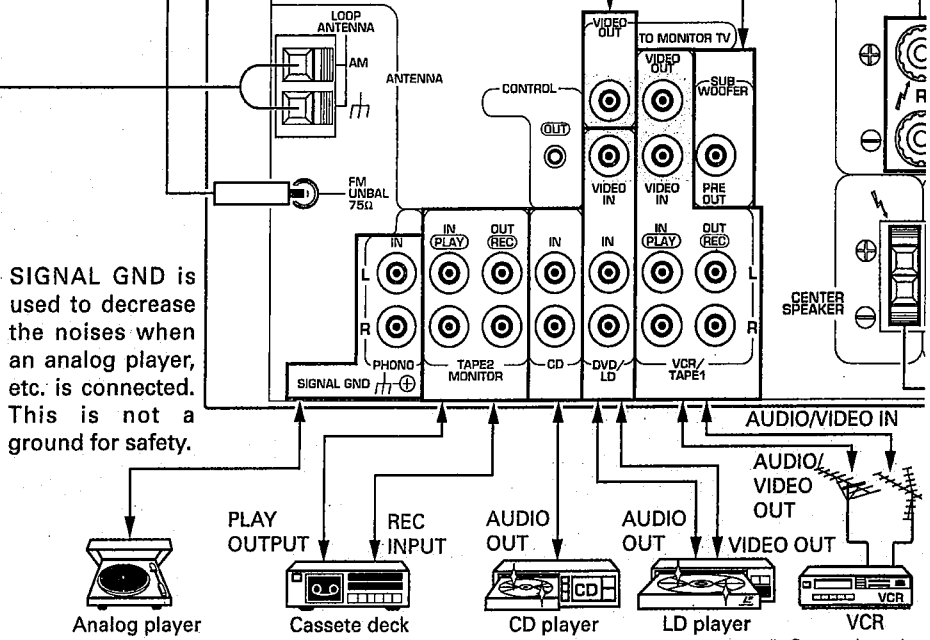
Stretch out fully and secure onto the wall using pins.

* The sub woofer can be connected in a different way. For details, refer to the instructions on the sub woofer.

TV monitor

* Sub woofer with built-in amplifier

VIDEO IN



SIGNAL GND is used to decrease the noises when an analog player, etc. is connected. This is not a ground for safety.

PLAY OUTPUT

REC INPUT

AUDIO OUT

AUDIO OUT

AUDIO/VIDEO OUT

VIDEO OUT

Analog player

Cassete deck

CD player

LD player

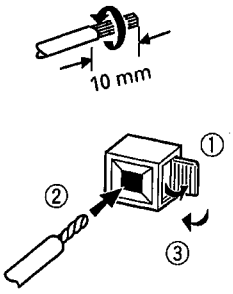
VCR

* Can also be connected to a DVD player.

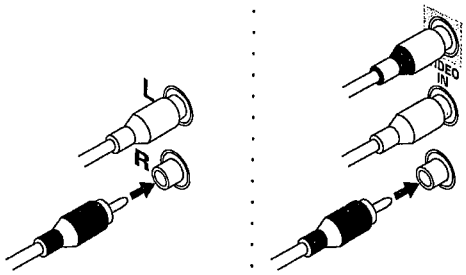
* Can also be connected to a cassette deck.

■ AM antenna terminal

Twist the wire core.



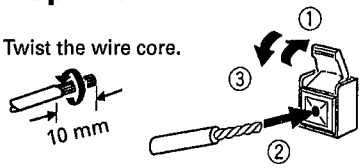
■ Input/output plug



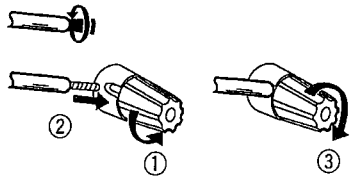
Connect the white plug to L, red plug to R, and yellow plug to VIDEO. Be sure to insert completely.

■ Speaker terminal

Twist the wire core.

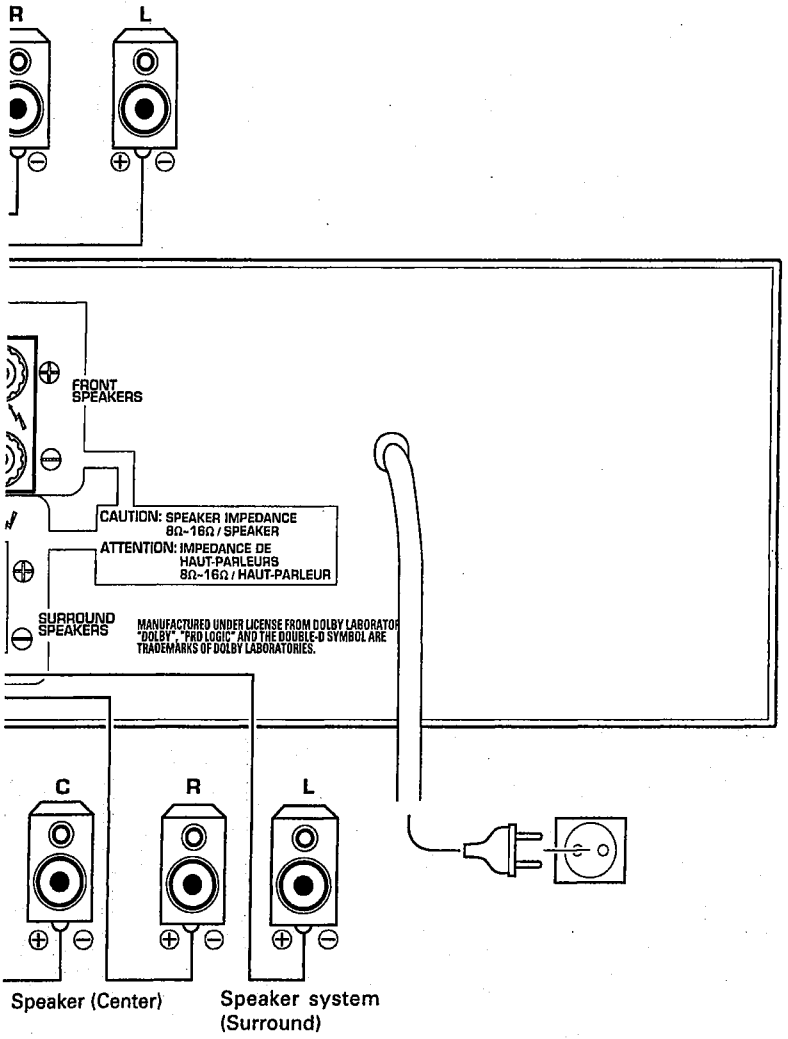


Twist the wire core.



The size of characters and terminal positions in the figures may differ from those on the actual product.

Speaker system (Front)


R
L
FRONT SPEAKERS
CAUTION: SPEAKER IMPEDANCE 8Ω~16Ω / SPEAKER
ATTENTION: IMPEDANCE DE HAUT-PARLEURS 8Ω~16Ω / HAUT-PARLEUR
SURROUND SPEAKERS
MANUFACTURED UNDER LICENSE FROM DOLBY LABORATORIES. "DOLBY", "PRO LOGIC" AND THE DOUBLE-D SYMBOL ARE TRADEMARKS OF DOLBY LABORATORIES.
C
R
L

Speaker (Center)

Speaker system (Surround)

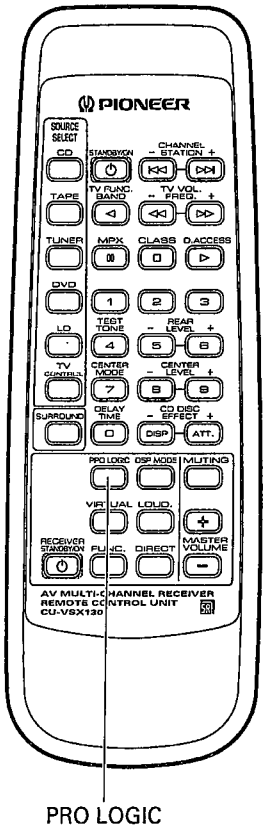
memo

Use nominal impedances ranging from 8 Ω to 16 Ω for the speaker system.

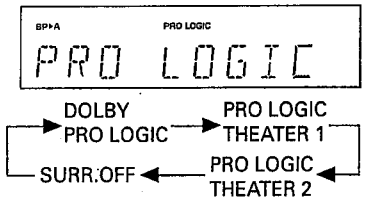
3. SURROUND

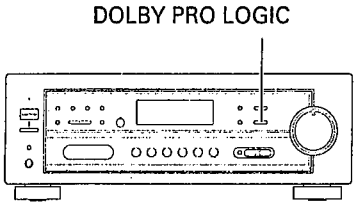
ENJOYING SURROUND EFFECTS

Switching the Dolby Pro Logic and Dolby Pro Logic with the sound effects (DSP MODE)



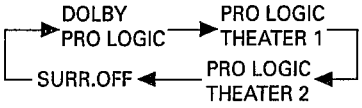
Select Dolby Pro Logic with the sound effects.



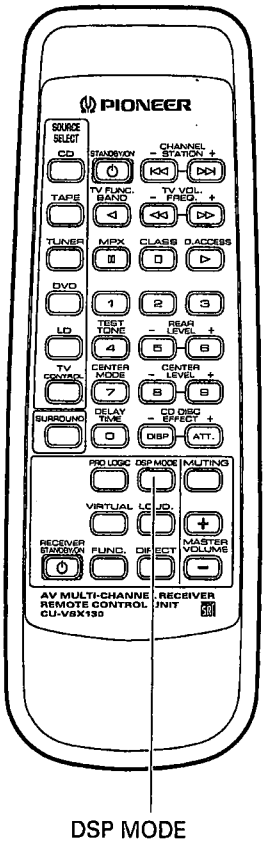


■ Operating with the main unit

Press the DOLBY PRO LOGIC button.
Each time it is pressed, the mode changes as follows.



Switching the sound effects (DSP MODE)

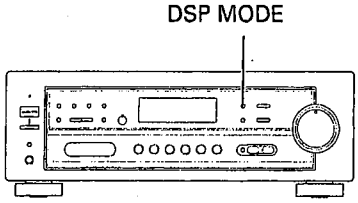


Select the sound effects.

Refer to page 34 for the characteristics of the surround effects.

HALL → JAZZ → DANCE → THEATER 1 → THEATER 2 → DSP OFF

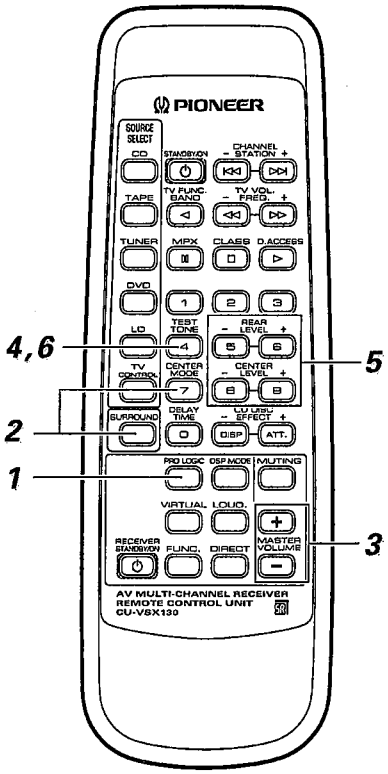
■ Operating with the main unit



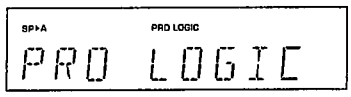
Press the DSP MODE button.
Each time it is pressed, the surround effects change as follows.

HALL → JAZZ → DANCE → THEATER 1 → THEATER 2 → DSP OFF

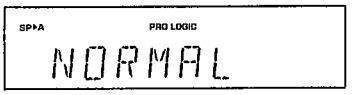
Enjoying Movie and Music sources in surround mode

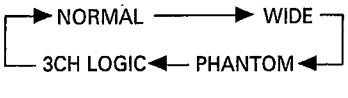


1. **Select Dolby Pro Logic.**



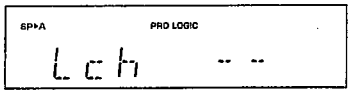
2. **Select the center mode.**
Before operating, press the SURROUND button.
Refer to page 33 for the characteristics of the center modes.

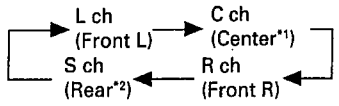




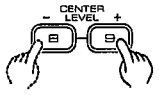
3. **Adjust to the desired volume.**

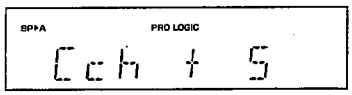
4. **Set the test tone.**

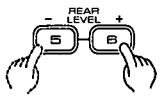


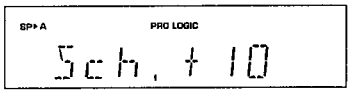


5. **Adjust the center level and rear level so that the test tone volume output from each speaker is the same.**
The BALANCE L,R buttons of this unit can be used to adjust the FRONT balance.









6. **Turn OFF the test tone.**

7. **Play the desired source.**

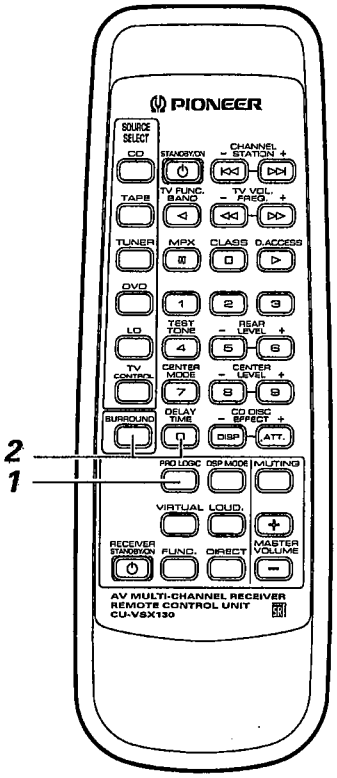
memo

- The TEST TONE signal will be output in the PRO LOGIC, PRO LOGIC THEATER 1, and PRO LOGIC THEATER 2 mode.
- The center level and rear level are the same in the PRO LOGIC, PRO LOGIC THEATER 1, PRO LOGIC THEATER 2 modes.
- The TEST TONE will not be output in the DSP mode, but the center level and rear level can be adjusted.
- The center and rear levels can also be adjusted in the DSP mode. In this case, the center and rear levels for HALL, JAZZ, DANCE, THEATER 1, THEATER 2 will be the same.

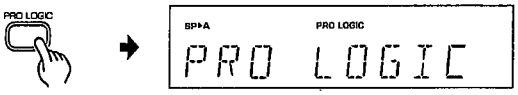
*1 When selecting PHANTOM in the center mode, no test tone is output from the center speaker.
*2 When 3CH LOGIC is selected in the center mode, no test tone is output from the surround speaker.

Setting the Delay Time

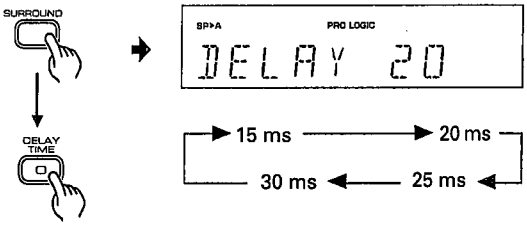
As the SURROUND speaker is normally placed near the listening position, it is nearer to the listening position than the FRONT speaker. Subsequently, since the sounds from the SURROUND speaker will be heard quicker than those from the FRONT speaker, set the delay time for the sounds from the SURROUND speaker so that the SURROUND and FRONT speakers are virtually the same distance from the listening position.
(Set about 1 to 1.5 m for each step.)



1. **Select DOLBY PRO LOGIC.**



2. **Set the delay time.**

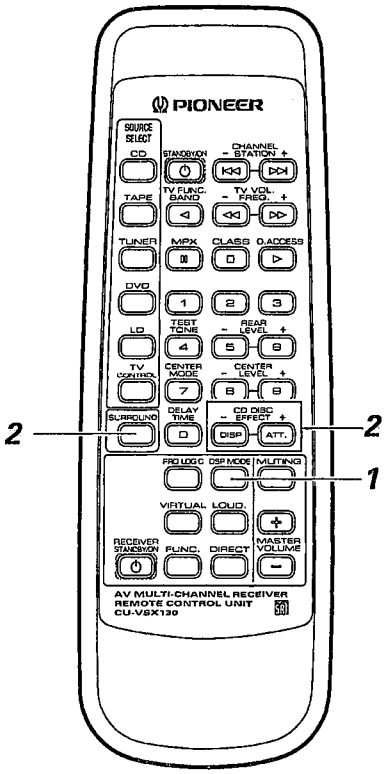


memo

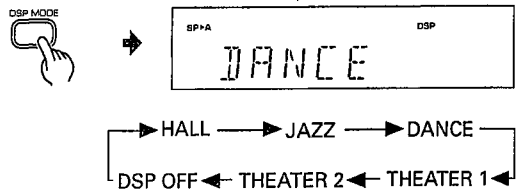
- First set to 20 ms.
- Initially the distance from the listening position to the SURROUND speaker will be set shorter than that from to the FRONT speaker.
- The delay time is valid during DOLBY PRO LOGIC.
- When 3CH LOGIC is selected in the center mode, the delay time cannot be set.

Setting the EFFECT Level

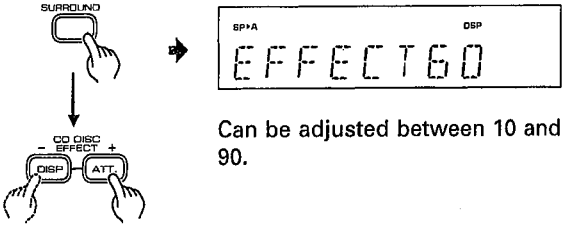
Surround effects can be changed by adjusting the EFFECT level in the DSP mode.



1. Select the DSP mode.



2. Adjust the EFFECT level.



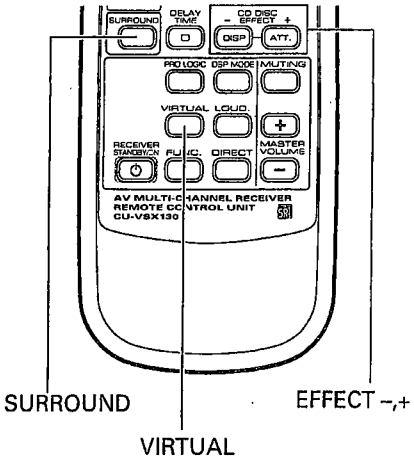
Can be adjusted between 10 and 90.

memo

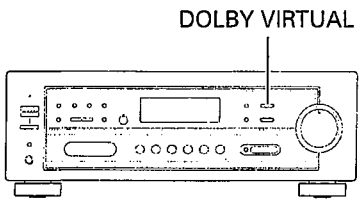
- The initial value is 60.
- The EFFECT level can also be adjusted in the PRO LOGIC THEATER 1, PRO LOGIC THEATER 2.
- The EFFECT level can be set independently in each mode.

Switching the DOLBY VIRTUAL

This unit is equipped with a DOLBY VIRTUAL function which realizes virtual surround effects using two FRONT speakers in addition to DOLBY PRO LOGIC and DSP modes.
Actually the sounds are output only from the two FRONT speakers, however it would seem as if sounds are also being produced from the back.



Select DOLBY VIRTUAL.
DOLBY VIRTUAL will turn ON and OFF each time this button is pressed.

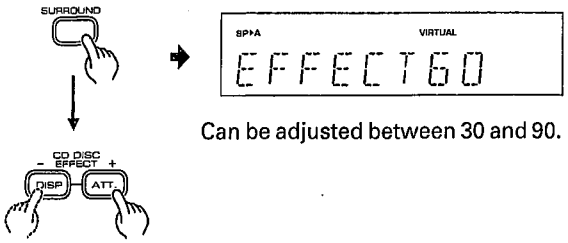


■ Operating with the main unit

Press the DOLBY VIRTUAL button.
DOLBY VIRTUAL will turn ON and OFF each time this button is pressed.

The virtual surround level can be adjusted as desired.

Adjust the virtual surround level.



Can be adjusted between 30 and 90.

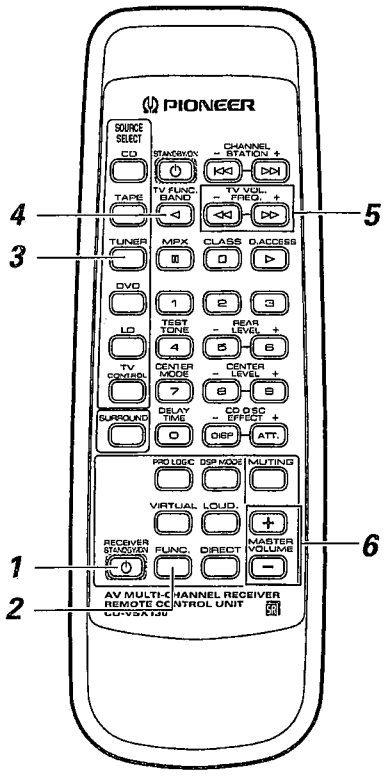
memo

- The initial value of EFFECT LEVEL is 60.
- The DOLBY VIRTUAL effects differ considerably according to the source played back. Use it to play back music and movie discs encoded by DOLBY PRO LOGIC.
- The DOLBY VIRTUAL effects differ considerably according to the listening position. (See page 34)

4. OPERATIONS

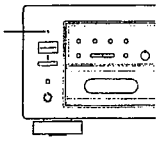
Turn ON the power switch of the main unit.

LISTENING TO FM/AM BROADCASTS



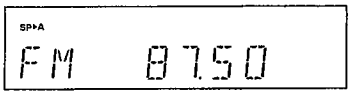
1. **Turn ON the power of the receiver.**

➡ STANDBY indicator goes off.



2. **Set the TUNER function.**

➡



3. **Select the TUNER operations.**

4. **Select the BAND (FM or AM).**

➡ AM ⇄ FM

5. **Select the broadcast station.**

➡ Refer to "Selecting broadcast stations" below.

6. **Adjust the volume.**

Selecting broadcast stations

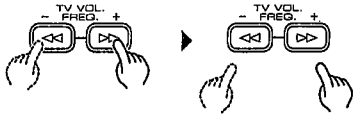
(For example, when selecting an FM broadcast)

① Selecting step by step.

Press lightly and release.

87.50
87.55
87.60
⋮

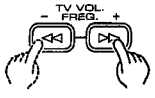
② Selecting automatically.



(Press and hold for approx. 1 second, then release)

87.50
↓
89.50
Stops when received.

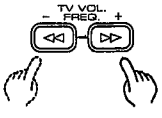
③ Selecting at high speed.

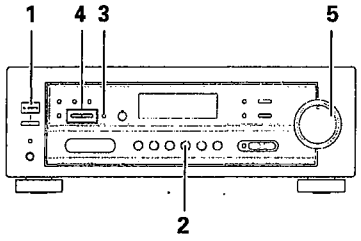


Press continuously

87.50
87.55
⋮
89.50

Stops when released.





■ Selecting a broadcast station using the main unit

1. **Press the STANDBY/ON button.**
2. **Press the FM/AM button and select an FM or AM broadcast.**
3. **Press the TUNING SELECT button to set the FREQUENCY mode.**

FREQUENCY mode (FM 87.50)* → STATION mode (A1 87.50)* → FREQUENCY mode

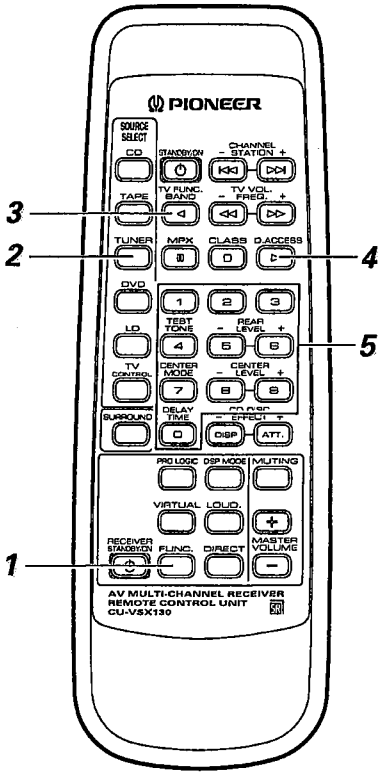
*( ) Display

4. **Press the FREQUENCY –/+ button and select the broadcast station.**
   The TUNED indicator lights when broadcast is received.
5. **Adjust the volume.**

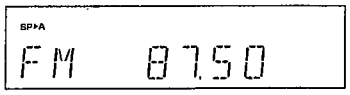
memo

The TUNED indicator will not light when a broadcast station is too far away or when the broadcasting signal is weak.

Directly inputting the frequency [Direct Access (remote control unit only)]

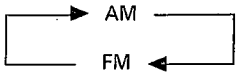


1. **Set the TUNER function.**

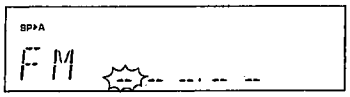


2. **Select the TUNER operations.**

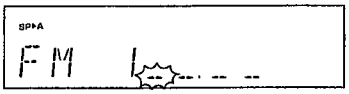
3. **Select the BAND (FM or AM).**

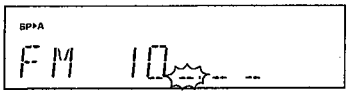


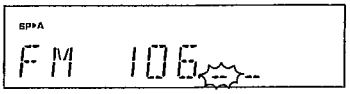
4. **Set the direct access mode.**

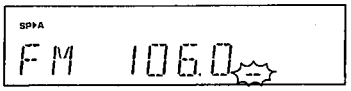


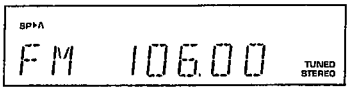
5. **Select the broadcast station.**
Press the numbers of the frequency to be received in order.







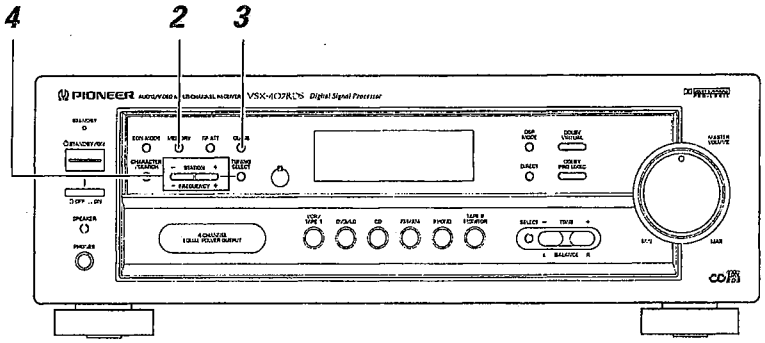




■ Canceling the frequency input

The frequency input can be canceled by pressing the D.ACCESS button again. Input the frequency again correctly.

Memorizing desired stations (Main unit only)

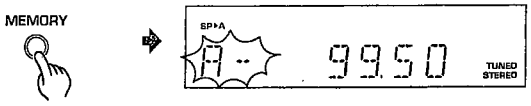


memo

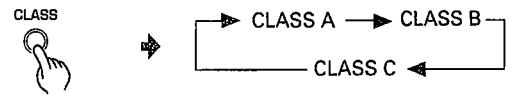
- The frequency received, MPX MODE (FM only) and also RF ATT (FM only) can be memorized.
- Up to 10 stations can be memorized in each of three classes.

1. Receive the desired station. ➡ Refer to "LISTENING TO FM/AM BROADCASTS" (Pages 20 and 21).

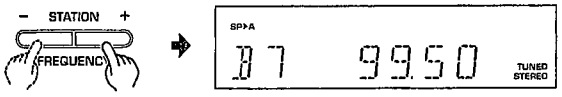
2. Set the MEMORY mode.



3. Select the desired class.



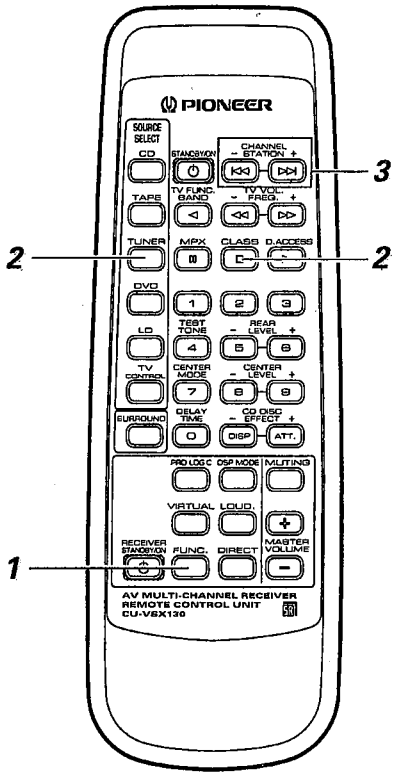
4. Select the desired station number.



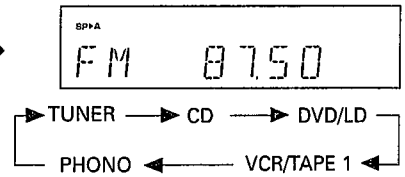
The selection will be memorized in the specified station number 5 seconds later. Pressing the MEMORY button within 5 seconds will exit the MEMORY mode.

Repeat steps 1 to 4 to memorize up to 30 stations.

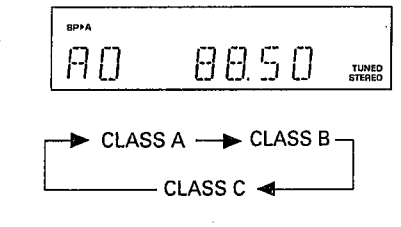
Listening to memorized stations



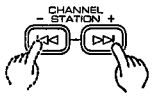
1. **Set the TUNER function.**

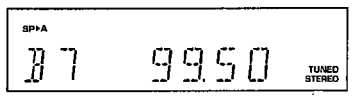


2. **Select the CLASS in which the desired station is memorized.**
(Before operating, press the TUNER button of the remote control unit.)

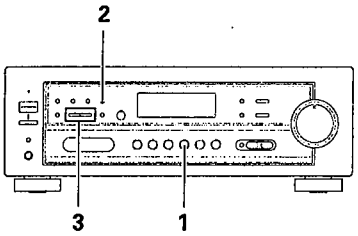


3. **Select the station number of the desired station.**
Can also be called with the number button.





Example:
When FM 99.50 MHz has been memorized in channel 7 of CLASS B.

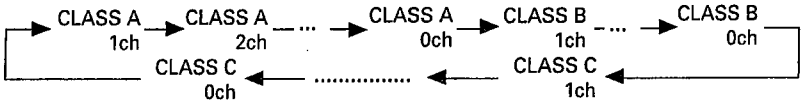


■ Operating with the main unit

1. **Press the FM/AM button.**
2. **Press the CLASS button, and select the CLASS in which the desired station has been memorized.**
3. **Press the STATION –/+ button, and select the desired station number which has been memorized.**

memo

- When the power cord of the unit is disconnected from the wall outlet or the power button is turned off for several days, the stations memorized will be erased.
- When selecting the station number with the STATION –/+ buttons, the stations will switch as follows.

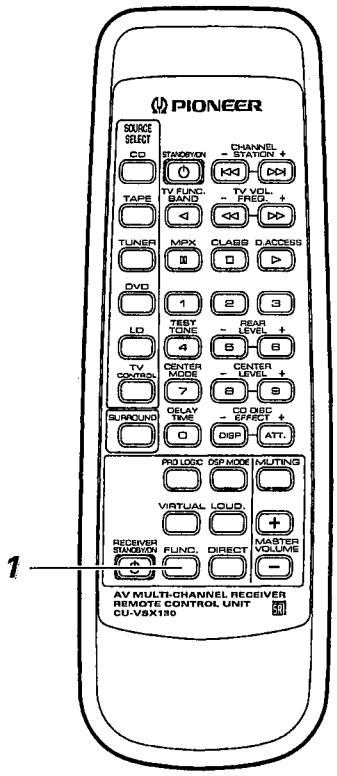


■ Last Station Memory

By turning ON the power and setting TUNER, the station set before the power was turned OFF will be received.

RECORDING

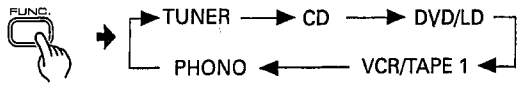
Recording with TAPE 1 or TAPE 2



memo

- Turn OFF TAPE 2 MONITOR when recording with TAPE 1.
- Turn ON the power of all equipment to be used.

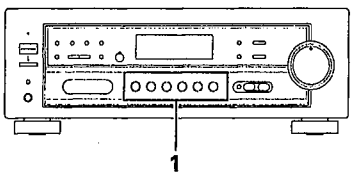
1. Select the source to be recorded.



2. Start recording with TAPE 1 or TAPE 2.

3. Play back the source to be recorded.

■ Operating with the main unit



1. Select the source to be recorded using the Function button.
2. Start recording with TAPE 1 or TAPE 2.
3. Play back the source to be recorded.

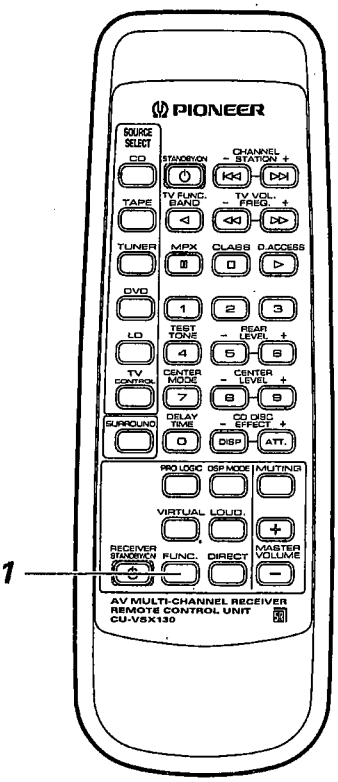
memo

- The VCR/TAPE 1 sounds cannot be recorded with TAPE 1.
- The volume, tone, balance and surround setting of this unit have no effect on the recording signal.
- The TAPE 2 sounds cannot be recorded.

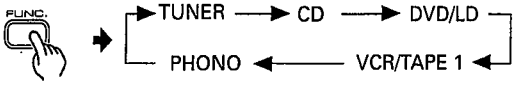
■ Recording Monitor

When recording with TAPE 2, if the recording device connected has a recording monitor function, turning ON the TAPE 2 MONITOR button will enable recording to be carried out simultaneously with playback monitoring (the TAPE 2 indicator lights).

Recording with a VCR



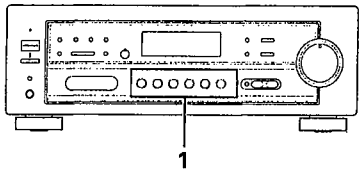
1. **Select the source to be recorded.**



2. **Start recording with a VCR.**

3. **Play back the source to be recorded.**

■ Operating with the main unit



1. Select the source to be recorded using the Function button.
2. Start recording with VCR.
3. Play back the source to be recorded.

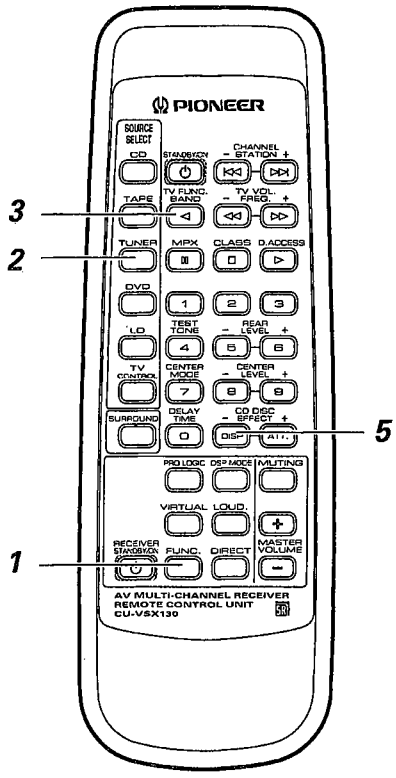
memo

- The signal from VCR/TAPE 1 cannot be recorded.
- The volume, tone, balance, and surround setting of this unit have no effect during recording signal.

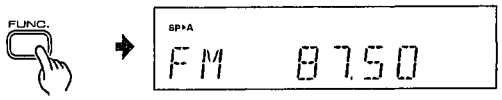
RDS (Radio Data System) BROADCAST RECEPTION

Refer to page 35 for RDS (Radio Data System) details.

Displaying the RDS data (remote control unit only)

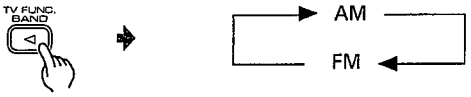


1. **Set the TUNER function.**



2. **Select the TUNER operations.**

3. **Select FM.**



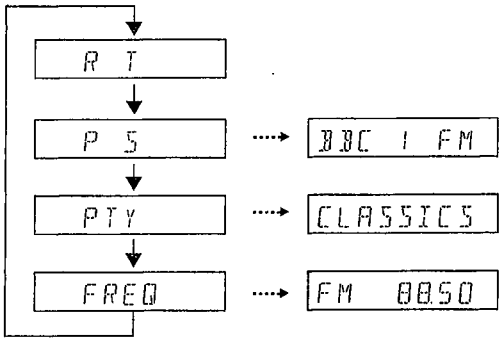
4. **Select the broadcast station.**

➡ Refer to "LISTENING TO FM/AM BROADCASTS" (Pages 20 to 23).

* If the received broadcast transmits RDS data, the RDS indicator lights, and the data of the display mode appears in the display.

5. **Select a mode.**

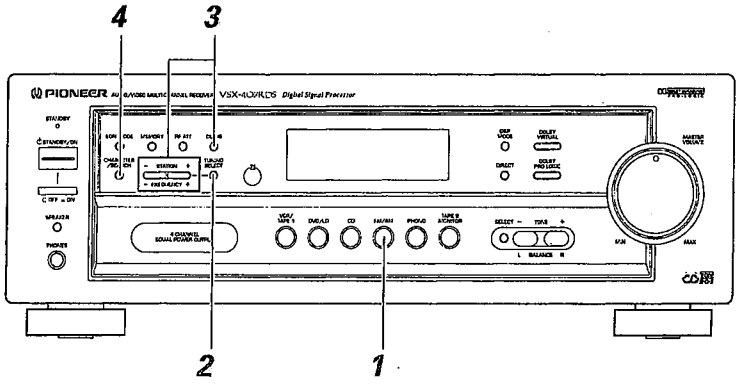
➡ The display changes by pressing the DISP button.



memo

- In the RT mode, should any noise be picked up while displaying the RT scroll, some characters may temporarily be incorrectly displayed.
- In the RT mode, when no RT data is transmitted from a broadcast station, "NO RADIO TEXT DATA" is displayed once and after that the PS data is displayed.
- In PTY mode during RDS broadcast reception, there are cases where "NO TYPE" is displayed. In this case, it will automatically switch to PS mode after a few seconds.
- When reception conditions are strong, and RDS data is incorrectly displayed, press the RF ATT button.

Memorizing a desired broadcast station name (Manual Station Name Memory) (Main unit only)



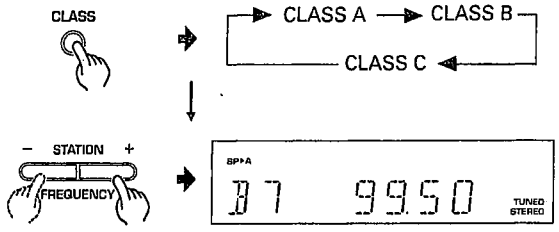
memo

- You can put a name of four characters for each memorized broadcast station (Refer to pages 22 and 23).
- The memorized name takes priority over the PS data and will be displayed.

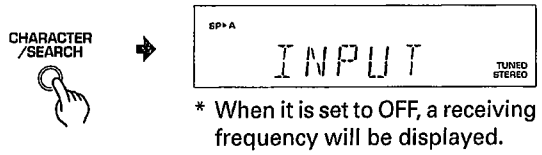
1. **Set the TUNER function.**

2. **Select the STATION mode.**

3. **Select the desired class and station number.**



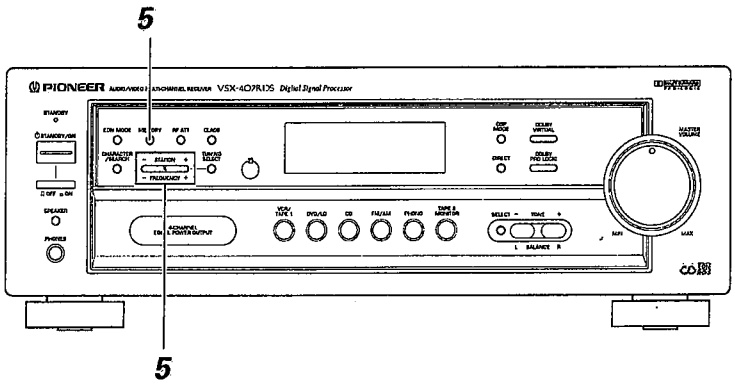
4. **Select the character input mode.**



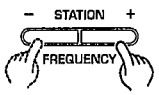
* When it is set to OFF, a receiving frequency will be displayed.

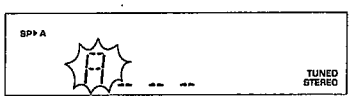
When FM is selected:
SEARCH → OFF
INPUT (Character input mode)

When AM is selected:
OFF
INPUT (Character input mode)



5. **Enter the broadcast station name.**





* Press the STATION –/+ button to display the desired character. (Refer to "Character display used for station name input" on page 37.)

MEMORY

Press the MEMORY button to input the first of four characters. After four characters have been entered, the character input mode ends.

Repeat steps 3 to 5 to memorize up to 30 broadcast station names.

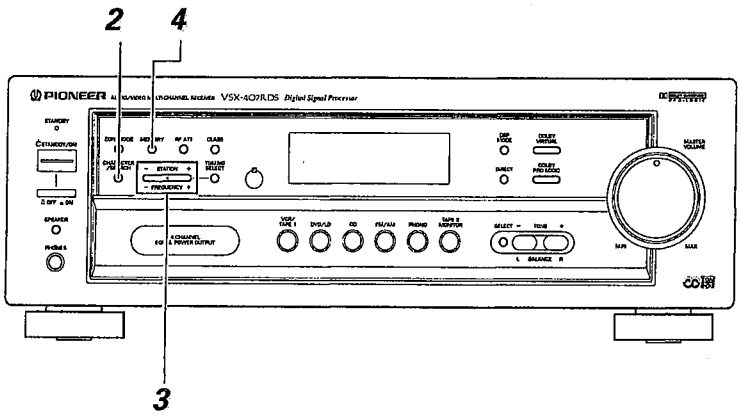
■ To erase and change the memorized station name

Perform the procedures of "Memorizing a desired broadcast station name" and input four spaces to erase the memorized station name.
When you want to change a memorized station name, input the new station name using the same procedure.

memo

For greater convenience, record memorized station names in the STATION "memo" on page 37.

Searching for a desired program by program type (PTY) (Main unit only)



1. **Select the FM band.** → Refer to "LISTENING TO FM/AM BROADCASTS" (Pages 20 to 23).

2. **Select the PTY search mode.** CHARACTER /SEARCH → SP▸A SEARCH

* When it is set to OFF, a receiving frequency will be displayed.

When STATION mode is selected:

OFF → INPUT → SEARCH (PTY search mode) →

When FREQUENCY mode is selected:

OFF → SEARCH (PTY search mode) →

3. **Select the desired program type.** − STATION + / FREQUENCY → SP▸A CLASSICS

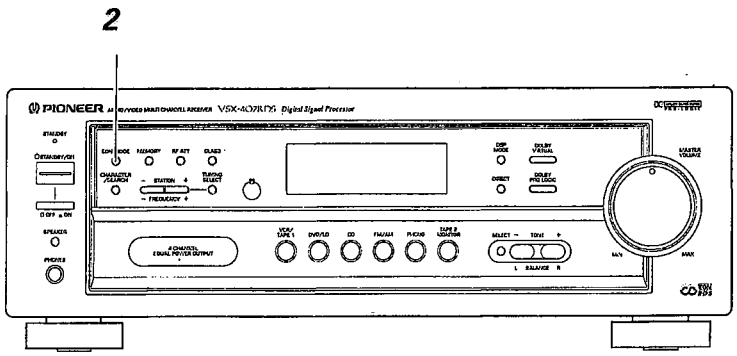
* Refer to pages 36 and 37 for program types.

4. **Search the selected program.** MEMORY → Searches randomly for a memorized broadcast station. Press the MEMORY button within 5 seconds after the desired program has been found. If the MEMORY button is not pressed, the function will search for the next station automatically.

memo

This function searches RDS stations preset in the 30ch memory. If this function is set when no stations have been preset, "NO PTY" will be displayed. And if the desired PTY could not be found amongst the RDS stations searched in the memory, the same display will appear.

Setting EON (Main unit only)

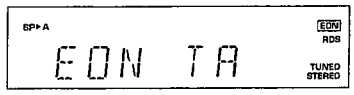


Refer to page 35 for EON details.

1 **Receive the desired EON FM station.** ➪ Refer to "LISTENING TO FM/AM BROADCASTS" (Pages 20 to 23).

2 **Select the mode.**

EON MODE



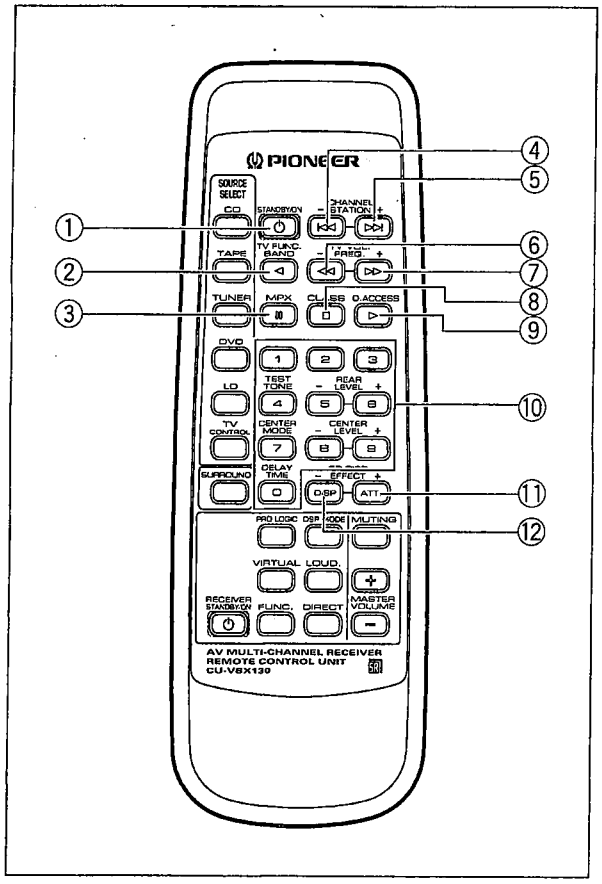
EON TA → EON NEWS → OFF

* When it is set to OFF, a receiving frequency or a memorized station name will be displayed.

memo

- The EON mode is cancelled if you switch to AM reception during setting EON. It starts once more when you return to FM reception.
- Simultaneous request waiting for Traffic Information (TA) and News programs is not possible.
- You cannot operate the MEMORY and CHARACTER/SEARCH buttons while the EON MODE indicator lights.
- Function other than TUNER cannot be changed while the EON MODE indicator flashes (receiving on EON broadcast).
  If you want to change to a function other than TUNER, press the EON MODE button and turn the EON MODE off.
- When you playback TAPE 2 while setting EON, TAPE 2 will be canceled by receiving EON. The function returns once more to TAPE 2 after EON reception.

5. OPERATIONS OF OTHER PIONEER EQUIPMENTS



DVD PLAYER operation

Press the DVD button in the SOURCE SELECT area, and operate as desired using the following buttons.

① ⏻ (power) STANDBY/ON

Use to turn STANDBY/ON the DVD player.

③ ⏸

Use to pause. (In some players, pressing this button may set still pictures.)

④ ⏮

Pressing and releasing this button immediately returns playback to the beginning of the chapter (track) currently being played. Pressing it continuously returns playback to the beginning of a previous chapter (track).

⑤ ⏭

Pressing and releasing this button immediately advances playback to the beginning of the next chapter (track). Pressing it continuously advances playback to the beginning of a future chapter (track).

⑥ ◀◀

Continuously pressing this button will start fast rewind playback.

⑦ ▶▶

Continuously pressing this button will start fast forward playback.

⑧ ■

Pressing this button during playback will stop the unit.

⑨ ▶

Starts playback.

LD PLAYER operation

Press the LD button in the SOURCE SELECT area, and operate as desired using the following buttons.

① ⏻ (power) STANDBY/ON

Use to turn STANDBY/ON the LD player.

③ ⏸

Use to pause. (In some players, pressing this button may set still pictures.)

④ ⏮

Pressing and releasing this button immediately returns playback to the beginning of the chapter (track) currently being played. Pressing it continuously returns playback to the beginning of a previous chapter (track).

⑤ ⏭

Pressing and releasing this button immediately advances playback to the beginning of the next chapter (track). Pressing it continuously advances playback to the beginning of a future chapter (track).

⑥ ◀◀

Continuously pressing this button will start fast rewind playback.

⑦ ▶▶

Continuously pressing this button will start fast forward playback.

⑧ ■

Pressing this button during playback will stop the unit. (With some LD players, the disc table may come out if pressed during stop.)

⑨ ▶

Starts playback.

⑪ ATT. (SIDE A/B)

Switches between sides A and B of the disc.

CD PLAYER operation

Press the CD button in the SOURCE SELECT area, and operate as desired using the following buttons.

① ⏻ (power) STANDBY/ON

Use to turn STANDBY/ON the CD player.

③ ⏸

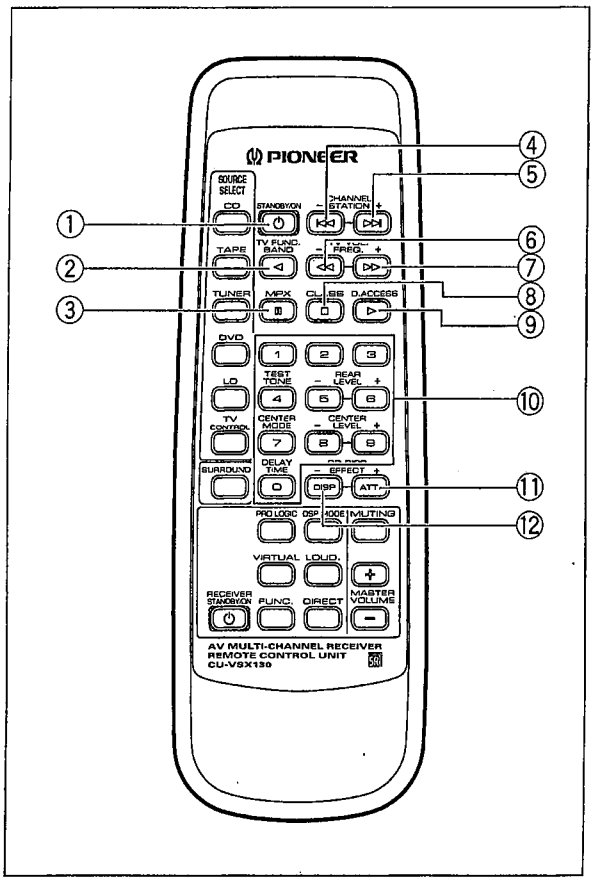
Use to pause playback.

④ ⏮

Pressing and releasing this button immediately returns playback to the beginning of the track currently being played. Pressing it continuously returns playback to the beginning of a previous track.

⑤ ⏭

Pressing and releasing this button immediately advances playback to the beginning of the next track. Pressing it continuously advances playback to the beginning of a future track.



⑥ ◀◀
Continuously pressing this button will start fast rewind playback.

⑦ ▶▶
Pressing this button continuously will start fast forward playback.

⑧ ■
Stops playback.

⑨ ▶
Starts playback.

⑪, ⑫ **CD DISC –, +**
Use to select the disc for CD players which can play several discs.

CASSETTE DECK operation

Press the TAPE button in the SOURCE SELECT area, and operate as desired using the following buttons.

① ⏻ **(power) STANDBY/ON**
Use to turn STANDBY/ON the cassette deck.
(Cannot turn STANDBY/ON some cassette decks.)

② ◀
Plays in the direction of the arrow.

③ ❚❚
Pauses playback and recording.

⑥ ◀◀
Rewinds the tape. Pressing this button during playback will start fast rewind playback.

⑦ ▶▶
Fast forwards the tape. Pressing this button during playback will start fast forward playback.

⑧ ■
Stops tape running.

⑨ ▶
Plays in the direction of the arrow.

memo

- When operating a double cassette deck, the deck II must be operated.
- For double cassette decks, the ⑩ Number buttons, ⑪ ATT. button and ⑫ DISP button can be used to operate deck I also.
  (Some models cannot be operated.)

⑩ CENTER MODE 7 (◀)
Plays in the direction of the arrow.

8 (◀◀)
Fast rewinds the tape in the direction of the arrow.

9 (▶▶)
Fast forwards the tape in the direction of the arrow.

DELAY TIME 0 (❚❚)
Pauses playback.

⑪ ATT. (▶)
Plays in the direction of the arrow.

⑫ DISP (■)
Stops tape running.

TV operation

Press the TV CONTROL button in the SOURCE SELECT area, and operate as desired using the following buttons.

① ⏻ **(power) STANDBY/ON**
Use to turn STANDBY/ON the TV.

② **TV FUNC.**
Use to select the TV input.

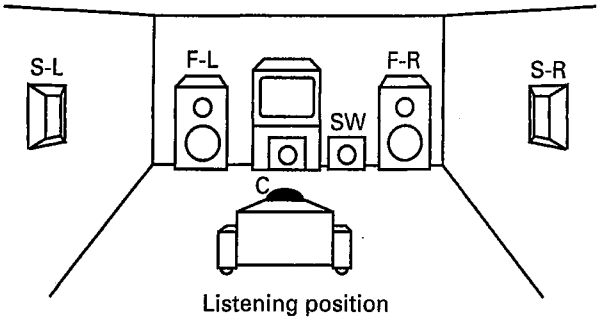
④, ⑤ **CHANNEL –, +**
Use to select a TV broadcast channel.

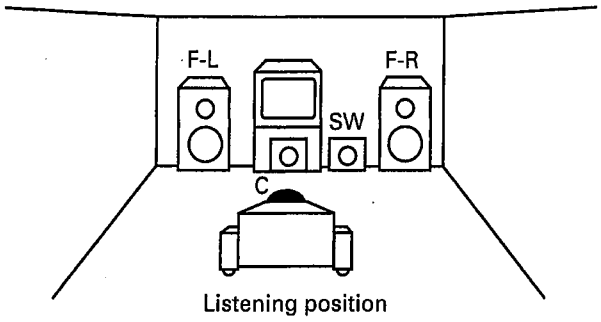
⑥, ⑦ **TV VOL. –, +**
Use to adjust the TV volume.

6. OTHER

SURROUND

Dolby Pro Logic Surround	Dolby 3CH Logic
Set to this position for video and music sources (especially sources bearing the DOLBY SURROUND marks). Dolby Pro Logic Surround continuously detects the size and direction of signals. As a result, the position of the sound source becomes clear, enabling reproduction of natural sound flow.	Same system as the Dolby Pro Logic Surround except that SURROUND speakers are not installed. SURROUND speaker signals are played back by the FRONT speakers, enabling better reproduction of surround effects and depth than with normal stereo playback.

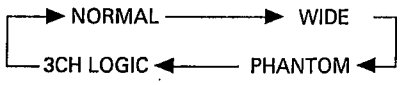




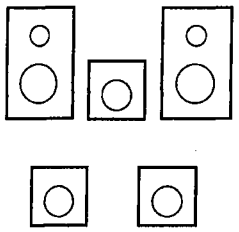
* In the above figure, F stands for front speakers, S for surround speakers, C for center speaker, SW for sub woofer, R for right, and L for left.

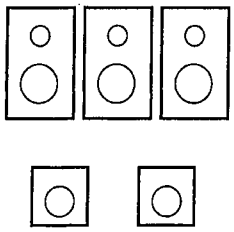
■ Selecting the center mode

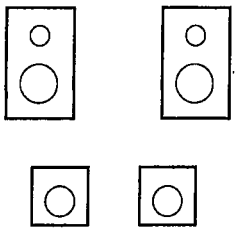
When Dolby Pro Logic is ON, pressing the CENTER MODE button will switch the mode as follows.

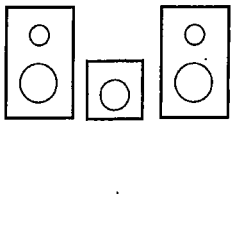


NORMAL	WIDE	PHANTOM	3ch LOGIC
Plays back middle and high range sounds from the CENTER speaker. Sounds are at the fixed position. The bass from the center channel is played back by the FRONT speakers.	Using the same speakers as the FRONT speakers for the CENTER speaker enables sounds from bass to treble to be played back more naturally.	The center channel sounds are played back between the L and R FRONT speakers.	The surround channel sounds and center channel bass sounds are played back between the L and R FRONT speakers.









■ DSP mode

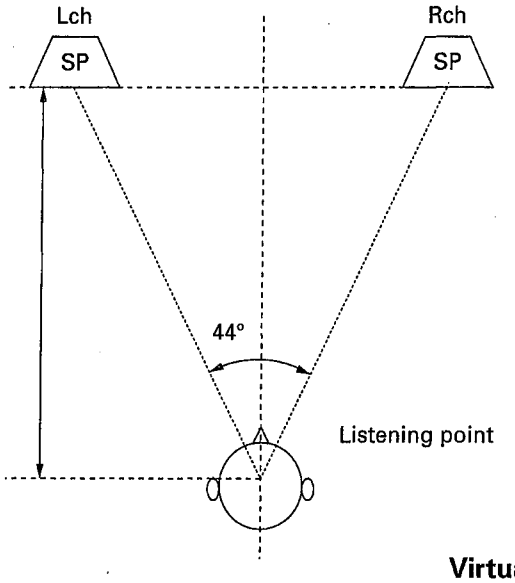
HALL	Simulates the acoustic effects of a concert hall. Suitable for classical music. Long delay time of reflected sounds, coupled with reverberation effects let the listener enjoy the dynamic and beautiful sounds characteristic of concert halls and powerful orchestral performances.
JAZZ	Simulates the acoustic effects of general jazz clubs. Reflected sound is virtually below 60 ms, for the listener to enjoy live-band effects.
DANCE	Simulates the acoustic effects of discos with a square dance floor. Features strong bass sound. Reflected sound delay time is virtually below 15 ms, for the listener to enjoy the "fever" of disco sounds.
THEATER 1	Sets the delay time of the reflected sound best suited for playing back acoustic parameters of a medium-sized movie theater in your living room.
THEATER 2	Reproduces theater sound field effects without losing the localization of each channel. Theater effects can be enjoyed without losing Dolby Pro Logic effects when used in combination.

memo

- THEATER 1 and THEATER 2 can be used together with DOLBY PRO LOGIC.
- EFFECT level :The level of the surround effects can be changed.
  For DSP :10 to 90 (Initially set to 60)
  For Virtual :30 to 90 (Initially set to 60)

■ Virtual Surround

VIRTUAL	Allows you to use only two front speakers (L and R) to enjoy sources recorded in Dolby Surround (possessing the DOLBY SURROUND mark).



Virtual surround listening point
The distance from this point to the speakers is about 1.2 times the distance between the speakers.

RDS (Radio Data System)

What is RDS (Radio Data System)

In the RDS system, FM broadcast stations transmit such information as station name and program type in addition to audio signals. This unit receives the following data, displays the three data, RT, PS, PTY, and provides the function, EON MODE.

- **RT (Radio Text) data**
  A message transmitted from the broadcast station using a maximum of 64 characters.

- **PS (Program Service Name) data**
  This refers to the broadcast station name transmitted by an FM broadcast station.

- **PTY (Program Type) data**
  During reception of an FM program, this data indicates the type of program.

EON (Enhanced Other Network information)

Function which switches a frequency automatically when a specified program starts, if it is set as a Traffic Information (TA) or News station in advance. It cannot be used in areas that EON information is not transmitted and when FM broadcast stations do not transmit PTY data.
When the broadcast ends, it returns to the original frequency.

- **TA (Traffic-Announcement identification)**
  This is an on/off switching signal to indicate whether or not traffic information is on the air.

- **NEWS**

PTY ALARM function

Function which switches to the urgent news broadcast of an FM station when it is received (PTY data alarm signal). During reception of this signal, TAPE 2 MONITOR and MUTING will automatically be set to off and the display mode will be set to PTY.

EON control

When EON is turned on and a function other than the tuner is set, the function will switch to the FM station automatically when Traffic Information or News starts.
When the program ends, the original function will be set again.
(Even if EON is turned on, this function will not operate when you switch to an AM broadcast.)

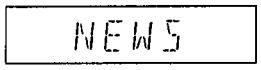
PI (Program Identification)

This information consists of a code enabling the tuner to distinguish between countries or areas in which the same program is transmitted, and the identification of the program itself. The code is not intended for direct display and is assigned to each individual radio program to enable it to be distinguished from all other programs.

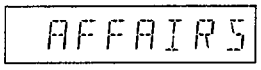
- **PI code registration and deletion**
  To use the EON function, receivable RDS stations must be programmed in the tuner.
  When the PI code is programmed and the same program (PI code) is preset using a different frequency, this function will only operate the most recently set station regardless of the reception state.
  When presetting new frequencies due to relocation to another area, etc., there is a need to delete registered PI codes.
  Perform the following procedure.

1. **Press the EON MODE button for two seconds or more.**
   "ERASE PI" will be displayed.
2. **Within 5 seconds, press the MEMORY button.**

The following are the 29 PTY data titles transmitted.

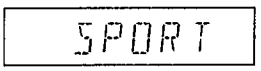


News: Short accounts of facts, events and publicly expressed views, reportage and actuality.

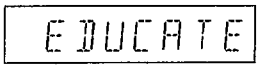


Current affairs: Topical program expanding or enlarging upon the news, generally in a different presentation style or concept, including debate, or analysis.

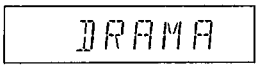
Information: Program's purpose is to impart advice in the widest sense.



Sport: Program concerned with any aspect of sport.

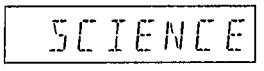


Education: Program intended primarily to educate, of which the formal element is fundamental.

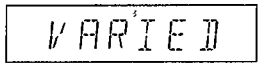


Drama: All radio plays and serials.

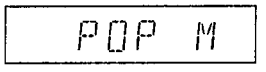
Culture: Programs concerned with any aspect of National or Regional culture, including language, theatre, etc.



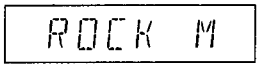
Science: Programs about the natural sciences and technology.



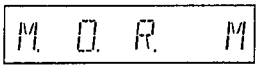
Varied: Used for mainly speech-based programs usually of light-entertainment nature, not covered by other categories. Examples include quiz shows, panel games, and personal interviews.



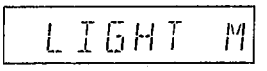
Pop Music: Commercial music, which would generally be considered to be of current popular appeal, often featuring current or recent record sales charts.



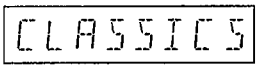
Rock Music: Contemporary modern music, usually written and performed by young musicians.



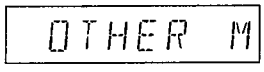
M.O.R. Music: (Middle of the Road Music) Common term to describe music considered to be "easy-listening", as opposed to Pop, Rock or Classical. Music in this category is often but not always, vocal and usually of short duration.



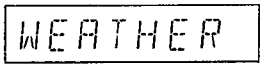
Light classical: Classical Music for general, rather than specialist appreciation. Examples of music in this category are instrumental music, and vocal or choral works.



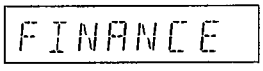
Serious classical: Performances of major orchestral works, symphonies, chamber music etc., and including Grand Opera.



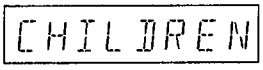
Other music: Musical styles not fitting into any of the other categories. Particularly used for specialist music of which Rhythm & Blues and Reggae are examples.



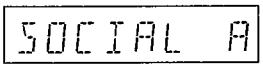
Weather: Weather reports and forecasts and Meteorological information.



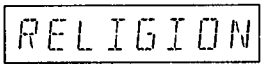
Finance: Stock Market reports, commerce, trading etc.



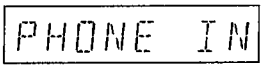
Children's programs: For programs targeted at a young audience, primarily for entertainment and interest, rather than where the objective is to educate.



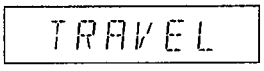
Social Affairs: Programs about people and things that influence individuals or groups. Includes sociology, history, geography, psychology and society.



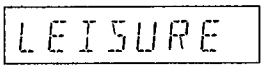
Religion: Any aspect of beliefs and faiths, involving a God or Gods, the nature of existence, and ethics.



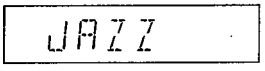
Phone In: Involving members of the public expressing their views either by phone or at a public forum.



Travel: Features and programs concerned with travel to near and far destinations, package tours and travel ideas and opportunities. Not for use of Announcements about problems, delays, or roadworks affecting immediate travel where TP/TA should be used.

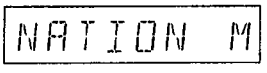


Leisure: Programs concerned with recreational activities in which the listener might participate. Examples include Gardening, Fishing, Antique collecting, Cooking, Food & Wine etc.

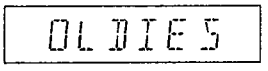


Jazz Music: Polyphonic, syncopated music characterised by improvisation.

Country Music: Songs which originate from, or continue the musical tradition of the American Southern States. Characterised by a straightforward melody and narrative story line.

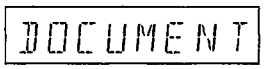


National Music: Current Popular Music of the Nation or region in that country's language, as opposed to International 'Pop' which is usually U.S. or U.K. inspired and in English.



Oldies Music: Music from the so-called "golden age" of popular music.

Folk Music: Music which has its roots in the musical culture of a particular nation, usually played on acoustic instruments. The narrative or story may be based on historical events or people.



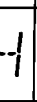
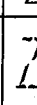
Documentary: Program concerned with factual matters, presented in an investigative style.

STATION CALL button "memo"

It is recommended that you make a note of the preset stations.

CLASS A	Station No.	*1	*2	*3	*4	*5
	Station Name					
	Frequency					
	Station No.	*6	*7	*8	*9	*0
	Station Name					
	Frequency					
CLASS B	Station No.	*1	*2	*3	*4	*5
	Station Name					
	Frequency					
	Station No.	*6	*7	*8	*9	*0
	Station Name					
	Frequency					
CLASS C	Station No.	*1	*2	*3	*4	*5
	Station Name					
	Frequency					
	Station No.	*6	*7	*8	*9	*0
	Station Name					
	Frequency					

Character display used for station name input:

Character	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Display indications																	
Character	R	S	T	U	V	W	X	Y	Z	[	\	]	_	!	0	1	2
Display indications																	
Character	3	4	5	6	7	8	9	"	%	&	'	(	)	*	+	,	-
Display indications																	
Character	.	/	:	=	?	@											
Display indications																	

NOTE:

This unit converts lower case characters transmitted by broadcast stations to upper case characters.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
The power does not turn ON.	• The power plug is disconnected from the outlet. • The cause may lie in the protection circuit.	• Insert into the wall outlet. • Disconnect the power plug from the outlet, and insert again. • Connect the speaker cords again.
The unit does not work even when the buttons are pressed.	• Due to effects of static electricity when the air is dry.	• Disconnect the power plug from the outlet, and insert again.
No sound is output when a function is set.	• Not properly connected. • Sound is muted. • The volume is turned down. • The TAPE 2 MONITOR is ON. • The speaker switch is OFF.	• Refer to pages 12 and 13 and connect again. • Press the MUTING button on the remote control unit. • Adjust MASTER VOLUME. • Press the TAPE 2 MONITOR button. • Press the SPEAKER button.
No image is output when a function is set.	• Not properly connected. • The input source is not properly selected.	• Refer to pages 12 and 13, and connect again. • Press the correct button.
Considerable noise in radio broadcasts.	• Not received at proper frequency. • The antenna is not connected.	• Receive the correct frequency. • Connect the antenna properly. (P. 12, 13)
	[FM broadcast reception] • The FM antenna is not stretched out, and faces an inappropriate direction. • Weak radio waves. • Strong radio waves. Sound is distorted.	• Stretch out the antenna and secure it to a wall while selecting the direction and position with the best reception state. • Change the FM antenna to an outdoor antenna of multiple elements. (P. 12) • Press the RF ATT button.
	[AM broadcast reception] • The AM antenna faces inappropriate direction. • Weak radio waves. • Affected by other equipment. (Fluorescent lamp, motor, etc.)	• Select the direction and position with the best reception state. • Connect a 5 to 6 meter long vinyl-coated wire to the AM antenna terminal and extend the wire outdoors, if possible. (P. 12) • Turn off the equipment which cause noise or move them away from the unit. • Distance the antenna from the equipment which cause noise.
Broadcast stations cannot be selected automatically.	• Weak radio waves.	• Change the FM antenna to an outdoor antenna of multiple elements. (P. 12)

Symptom	Cause	Remedy
No sound from surround or center speakers.	• Settings are incorrect. • Surround or center level is turned down. • The surround or center speaker is disconnected.	• Refer to pages 16 and 33, and set. • Raise the level. • Connect. (P. 12, 13)
Cannot be remote controlled.	• The remote control unit batteries have worn out. • Too great of a distance. Bad angle. • There is an obstacle blocking signals in between the unit and the remote control. • Strong light such as fluorescent light is shining onto the unit's remote control signal light-receiving window.	• Replace the batteries. (P. 7) • Operate within 7m, 30 deg. from the left and right of the unit's remote control light-receiving window. • Remove the obstacle or operate from somewhere else. • Avoid direct exposure of the remote control light-receiving window to the light.

If the unit does not operate normally due to external effects such as static electricity, disconnect the power plug from the outlet and insert again to return to normal operating conditions.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

SPECIFICATIONS

Amplifier Section

Continuous rated power output of 65 watts* per channel, min., at 8 ohms, from 40 Hz to 20,000 Hz with no more than 0.09 % total harmonic distortion (front).**

Continuous Power Output
(DIN, 1 kHz, T.H.D. 1 %, 8 Ω)

STEREO	Front	70 W + 70 W
SURROUND	Front	50 W + 50 W
	Center	50 W
	Rear	50 W

Input (Sensitivity/Impedance)
- PHONO MM ..... 2.8 mV/47 kΩ
- CD, VCR/TAPE 1, TAPE 2, DVD/LD ..... 200 mV/47 kΩ

Phono Overload Level (T.H.D. 0.1 %, 1kHz)
- PHONO MM ..... 90 mV

Frequency Response*
- PHONO MM ..... 20 Hz to 20,000 Hz ± 0.5 dB
- CD, VCR/TAPE 1, TAPE 2, DVD/LD .... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB

Output (Level/Impedance)
- VCR/TAPE 1 REC, TAPE 2 REC ..... 200 mV/1 kΩ

Tone Control
- BASS ..... ± 8 dB (150 Hz)
- TREBLE ..... ± 8 dB (10 kHz)
- LOUDNESS ..... +8 dB/+6 dB (100 Hz/10 kHz)

Signal-to-Noise Ratio [DIN (Rated power output/50 mW)]*
- PHONO MM ..... 68 dB/61 dB
- CD, VCR/TAPE 1, TAPE 2, DVD/LD ..... 86 dB/63 dB

* *Direct: ON*
** *Measured by Audio Spectrum Analyzer.*

VIDEO Section

Input (Sensitivity/Impedance)
- VCR/TAPE 1, DVD/LD ..... 1 Vp-p/75 Ω

Output (Level/Impedance)
- VCR/TAPE 1 REC, MONITOR TV ..... 1 Vp-p/75 Ω

Frequency Response
- VCR/TAPE 1, DVD/LD → MONITOR ..... 5 Hz to 7 MHz $^{+0}_{-3}$ dB

Signal-to-Noise Ratio ..... 55 dB
Cross Talk ..... 55 dB

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono: 15.2 dBf, IHF (1.6 µV/75 Ω)
50 dB Quieting Sensitivity ..... Mono: 20.2 dBf
Stereo: 41.2 dBf
Signal-to-Noise Ratio ..... Mono: 76 dB (at 85 dBf)
Stereo: 72 dB (at 85 dBf)
Distortion ..... Stereo: 0.6 % (1kHz)
Alternate Channel Selectivity ..... 70 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (± 1) dB
Antenna Input ..... 75 Ω unbalanced
Sensitivity (DIN) ..... Mono: 1.1 µV (S/N 26 dB)
Stereo: 50 µV (S/N 46 dB)
Signal-to-Noise Ratio (DIN) ..... Mono: 62 dB
Stereo: 58 dB

AM Tuner Section

Frequency Range ..... 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Selectivity ..... 30 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements ..... AC 220-230 V, 50/60 Hz
Power Consumption ..... 170 W
Dimensions ..... 420 (W) × 143 (H) × 334 (D) mm
Weight (without package) ..... 6.6 kg

Furnished Parts

FM Antenna 1
AM Loop Antenna 1
Dry Cell Batteries [size "AA" (IEC R6P)] 2
Remote Control Unit 1
Operating Instructions 1
Warranty card 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

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